

PHOTOGRAPHIC INTERPRETATION REPORT

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

## MICROWAVE SYSTEM AT SARY-SHAGAN ANTIMISSILE TEST CENTER USSR

25X1

25X1

NOVEMBER 1970 COPY NO 117 5 PAGES PIR-065/70

GROUP 1: EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION



		TOP SECRET RU	11		
LATION OR ACTIVITY		A 11 1 11 TD 10		Co	DUNTRY
COORDINATES	GEOGRAPHIC COORDINATES	an Antimissile Test C	BENUMBER	COMIREX NO.	UR
REFERENCE	See Below	See Below	See Below	See Below	I
	C, Series 200, Sheet	0245-15, scale 1:200,0	000		
		NEGATION DA			
		NA			
		NPIC PROJECT 25080			
		25000	/ <del>-</del>		
	_	INTRODUCTIO	N		
oro. The milen dismant ferenced recept at the eaccurate to Sary-(Sary-	crowave tower at the cled as of June 1970 port were remeasured Sary-Shagan Headto within plus-or-mediagan Radio Cong-Shagan Microway	on high-resolution phothe Sary-Shagan Microb. The photogrammet: red; however, no refind quarters Microwave ainus 30 seconds.  Inmunications and Rave Facility 16); 47-22-24.	owave Facility rically derived nement in accu Facility. The dio Relay Stati 42N 067-28-46I	3-I ( coordinates guracy could be coordinates guracy fon 16	has given in the se achieved
• Sary- (Sary	-Shagan Microwav	nmunications and Rac ve Facility 14); 47-08-2	52N 069-24E;		
• Sarv-	ty 13); 46-59-07N 0	)70-10-50 <b>E</b> ;			
Facili  Sary-1  12); 40	Shagan Radio Rela 6-24-49N 072-33-46	<b>BE</b> ;			
Facili  Sary-12); 46  Sary-3	6-24-49N 072-33-46	BE; y Station 11 (Sary-Sh			
• Sary-12); 46	6-24-49N 072-33-46 Shagan Radio Rela 6-41-31N 072-37-42	BE; y Station 11 (Sary-Sh	nagan Microwa		
Sary-5	6-24-49N 072-33-46 Shagan Radio Rela 3-41-31N 072-37-42 Shagan Microwave	SE; by Station 11 (Sary-Sh P.E.:	nagan Microwa N 072-30-11E:		
• Sary-5 • Sary-5 • Sary-5 • Sary-5	6-24-49N 072-33-46 Shagan Radio Rela 6-41-31N 072-37-42 Shagan Microwave	SE; y Station 11 (Sary-Sh EE: Facility 10; 46-57-24	nagan Microwa N 072-30-11E:	ve Facility	
• Sary-5 • Sary-5 • Sary-5 • Sary-5 • Sary-5	6-24-49N 072-33-46 Shagan Radio Rela 6-41-31N 072-37-42 Shagan Microwave Shagan Microwave Shagan Radio Rela; 18N 070-49-47E;	SE;  y Station 11 (Sary-She) EE: Facility 10; 46-57-24. Facility 9; 46-52-39N	nagan Microwa N 072-30-11E:	ve Facility e Facility 8);	

25X1

25X1

25X1

25X1

25X1

25X1 25X1

25X1

25X1 25X1

25X1 25X1

25X1 25X1

25X1 25X1

25X1 25X1

25X1 25X1

25X1 25X1

25X1 25X1

The two self-supporting towers at the Sary-Shagan ESV Tracking Facility are not of the same design as the self-supporting microwave towers at other towave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave for elements were identified in the communications area northwest of the ESV	Sanitized Copy Approved for Release 2011/08/02 : CIA-RDP78T05162	2AUUU100010026-2
Sary-Shagan Radio Relay Station 5 (Sary-Shagan Microwave Facility 5); 45-54-00N 071-20-32N; Sary-Shagan Radio Relay Station 4 (Sary-Shagan Microwave Facility 4); 45-57-27N 072-12-55E; Sary-Shagan Radio Relay Station 3-II, 45-38-22N 072-37-24E; Sary-Shagan Communications Facility 6 (MW); 46-04-05N 073-21-58E; Sary-Shagan Communications Facility 5 (MW); 46-04-05N 073-21-58E; Sary-Shagan Communications Facility 4 (MW); 46-00-00N 071-49-16E; Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility); 46-24-28N 072-52-07E; Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility); 46-24-28N 072-52-07E; Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility); 46-01-38N 073-41-18E; Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility); 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All the wave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any example of the state o	TOP SECRET RUFF	
Sary-Shagan Radio Relay Station 5 (Sary-Shagan Microwave Facility 5); 45-54-00N 071-20-32N; Sary-Shagan Radio Relay Station 4 (Sary-Shagan Microwave Facility 4); 45-57-27N 072-12-55E; Sary-Shagan Radio Relay Station 3-II, 45-38-22N 072-37-24E; Sary-Shagan Communications Facility 6 (MW); 46-04-05N 073-21-58E; Sary-Shagan Communications Facility 5 (MW); 46-04-05N 073-21-58E; Sary-Shagan Communications Facility 4 (MW); 46-00-00N 071-49-16E; Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility); 46-24-28N 072-52-07E; Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility); 46-24-28N 072-52-07E; Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility); 46-01-38N 073-41-18E; Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility); 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All the wave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any example of the state o		
Sary-Shagan Radio Relay Station 4 (Sary-Shagan Microwave Facility 4): 46-57-27N 072-12-55E;  Sary-Shagan Radio Relay Station 3-II, 45-38-22N 072-37-24E;  Sary-Shagan Communications Facility 6 (MW): 46-04-05N 073-21-58E;  Sary-Shagan Communications Facility 5 (MW): 46-14-36N 072-56-48E;  Sary-Shagan Communications Facility 4 (MW): 46-04-05N 073-21-58E;  Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility): 46-24-28N 072-52-07E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility): 46-01-38N 073-41-18E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility): 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All wave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including action and height), and description of miscellaneous equipment. Orientations were uted by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers crowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna nounted on a single 9-meter (30-foot) vertical support projecting from the top of the lowave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave sat microwave elaments were observed between the ESV tracking facility and launch lex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and the microwave elaments were observed between the ESV tracking facility and launch ment on these towers does not appear to be microwave associated and is probably for calibration.  The two self-supporting towers at the Sary-Shagan ESV Tracking Facilit		ve Facility 6):
Sary-Shagan Radio Relay Station 3-II, 45-38-22N 072-37-24E; Sary-Shagan Communications Facility 6 (MW); 46-04-05N 073-21-58E; Sary-Shagan Communications Facility 5 (MW); 46-14-36N 072-56-48E; Sary-Shagan Communications Facility 4 (MW); 46-00-00N 071-49-16E; Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility); 46-24-28N 072-52-07E; Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility): 46-01-38N 073-41-18E; Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility); 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All wave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including that it is a station and height), and description of miscellaneous equipment. Orientations were uted by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers crowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna nounted on a single 9-meter (30-foot) vertical support projecting from the top of the lowave tower. Two braces joined the horizontal member of the antenna, which wave tower. Two braces joined the horizontal member of the antenna, which is not a single 9-meter (30-foot) vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave sat microwave acilities 3-II, 6 and 10, each of which is located near a HEN EGG northwest of the two ESV buildings, and when the communications are a heavy buildings, and when the communication is bloom to 51-meter (168-foot) mast southeast of the ESV buildings, and no microwave realities and are probably calibration towers. No additional information is bloom to 51-meter (168-foot) mast southeast of th		ve Facility 5);
Sary-Shagan Communications Facility 6 (MW); 46-04-05N 073-21-58E;  Sary-Shagan Communications Facility 5 (MW); 46-04-05N 073-21-58E;  Sary-Shagan Communications Facility 4 (MW); 46-00-00N 071-49-16E;  Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility); 46-24-28N 072-52-07E;  Sary-Shagan Complex B Microwave Facility; 46-01-06N 072-28-29E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility); 46-01-38N 073-41-18E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility); 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All wave elements identified were Vesna-type horns (Figure 2). Neither significant new uction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including attion and height), and description of miscellaneous equipment. Orientations were steed by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers rowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna ounted on a single 9-meter (30-foot) vertical support projecting from the top of the wave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave as at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG at microwave desired facilities 3-II, 6 and 10, each of which is located near a HEN EGG at microwave elements were observed between the ESV tracking facility and launch lear D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and ther tower is the same distance north of launch complex D. The unidentified ment on these towers does not appear to be microwave associated and is probably for calibration.		ve Facility 4);
Sary-Shagan Communications Facility 5 (MW): 46-14-36N 072-56-48E;  Sary-Shagan Communications Facility 4 (MW); 46-00-00N 071-49-16E;  Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility): 46-24-28N 072-52-07E:  Sary-Shagan Complex B Microwave Facility: 46-01-06N 072-28-29E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility): 46-01-38N 073-41-18E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility): 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All swave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including tation and height), and description of miscellaneous equipment. Orientations were utted by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers crowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna nounted on a single 9-meter (30-foot) vertical support projecting from the top of the owave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave at at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG me. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch lex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and other tower is the same distance north of launch complex D. The unidentified orient on these towers does not appear to be microwave associated and is probably for calibration.  The two self-supporting towers at the Sary-Shagan ESV Tracking	Sary-Shagan Radio Relay Station 3-II, 45-38-22N 072-37-24E	Σ;
Sary-Shagan Communications Facility 4 (MW); 46-00-00N 071-49-16E;  Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility); 46-24-28N 072-52-07E:  Sary-Shagan Complex B Microwave Facility; 46-01-06N 072-28-29E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility); 46-01-38N 073-41-18E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility); 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All owave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including tation and height), and description of miscellaneous equipment. Orientations were used by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers icrowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna mounted on a single 9-meter (30-foot) vertical support projecting from the top of the owave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave ras at microwave elements were observed between the ESV tracking facility and launch olex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and other tower is the same distance north of launch complex D. The unidentified or memory is a same distance north of launch complex D. The unidentified memory is the same design as the self-supporting microwave towers at other wave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave or elements were identified in the communications area northwest of the ESV	• Sary-Shagan Communications Facility 6 (MW); 46-04-05N 0	073-21-58 <b>E</b> ;
Sary-Shagan Radio Relay Station A (Sary-Shagan Launch Complex A Microwave Facility): 46-24-28N 072-52-07E:  Sary-Shagan Complex B Microwave Facility: 46-01-06N 072-28-29E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility): 46-01-38N 073-41-18E:  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility): 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All wave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including lation and height), and description of miscellaneous equipment. Orientations were utted by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers crowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna nounted on a single 9-meter (30-foot) vertical support projecting from the top of the lowave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave at at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG inc. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch lex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and ther tower is the same design as the self-supporting microwave towers at other wave facilities and are probably calibration towers. No additional information is the orther wave facilities and are probably calibration towers. No additional information is the on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave or elements were identified in the	Sary-Shagan Communications Facility 5 (MW); 46-14-36N (	072-56-48 <b>E</b> ;
Microwave Facility: 46-24-28N 072-52-07E:  Sary-Shagan Complex B Microwave Facility; 46-01-06N 072-28-29E;  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headouarters Microwave Facility): 46-01-38N 073-41-18E:  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility): 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All wave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including action and height), and description of miscellaneous equipment. Orientations were uted by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers crowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna nounted on a single 9-meter (30-foot) vertical support projecting from the top of the lowave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave is at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG one. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch lex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and ther tower is the same distance north of launch complex D. The unidentified ment on these towers does not appear to be microwave associated and is probably for calibration.  The two self-supporting towers at the Sary-Shagan ESV Tracking Facility are not of the same design as the self-supporting microwave towers at other wave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mas	Sary-Shagan Communications Facility 4 (MW); 46-00-00N 0	071-49-16E;
Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Headquarters Microwave Facility): 46-01-38N 073-41-18E.  Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/ TV Facility): 46-02-17N 073-41-52E;  BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All the wave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including tation and height), and description of miscellaneous equipment. Orientations were noted by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers icrowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna mounted on a single 9-meter (30-foot) vertical support projecting from the top of the owave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave rs at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG me. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch older. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and other tower is the same distance north of launch complex D. The unidentified oment on these towers does not appear to be microwave associated and is probably for calibration.  The two self-supporting towers at the Sary-Shagan ESV Tracking Facility are not of the same design as the self-supporting microwave towers at other tower facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave or elements were identified in the communications		Complex A
Headquarters Microwave Facility): 46-01-38N 073-41-18E:    Sary-Shagan Radio Relay and TV Center Main Base (Sary-Shagan Microwave/TV Facility): 46-02-17N 073-41-52E;    BASIC DESCRIPTION	Sary-Shagan Complex B Microwave Facility; 46-01-06N 072-	-28-29 <b>E</b> ;
BASIC DESCRIPTION  No R-400 microwave dishes were observed at any of the 22 microwave facilities. All wave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including ation and height), and description of miscellaneous equipment. Orientations were uted by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers crowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna nounted on a single 9-meter (30-foot) vertical support projecting from the top of the lowave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave at at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG ne. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch lex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and ther tower is the same distance north of launch complex D. The unidentified ment on these towers does not appear to be microwave associated and is probably for calibration.  The two self-supporting towers at the Sary-Shagan ESV Tracking Facility are not of the same design as the self-supporting microwave towers at other wave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave or elements were identified in the communications area northwest of the ESV y.		Shagan
No R-400 microwave dishes were observed at any of the 22 microwave facilities. All owave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any e 22 microwave facilities. Table 1 includes tower heights, antenna elements (including tation and height), and description of miscellaneous equipment. Orientations were outed by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers icrowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna mounted on a single 9-meter (30-foot) vertical support projecting from the top of the owave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave as at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG me. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch olex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and other tower is the same distance north of launch complex D. The unidentified oment on these towers does not appear to be microwave associated and is probably for calibration.  The two self-supporting towers at the Sary-Shagan ESV Tracking Facility are not of the same design as the self-supporting microwave towers at other wave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave to or elements were identified in the communications area northwest of the ESV ty.		Shagan Microwave/
owave elements identified were Vesna-type horns (Figure 2). Neither significant new ruction nor evidence of non-usage of existing microwave equipment was noted at any 22 microwave facilities. Table 1 includes tower heights, antenna elements (including tation and height), and description of miscellaneous equipment. Orientations were buted by establishing the correspondent of each facility (Figure 1).  An unidentified Yagi-type antenna (Figure 2) was observed atop microwave towers icrowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna mounted on a single 9-meter (30-foot) vertical support projecting from the top of the lowave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  Unidentified equipment (Figure 3) was on top of the self-supporting microwave at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG me. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch objects. D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and other tower is the same distance north of launch complex D. The unidentified penent on these towers does not appear to be microwave associated and is probably for a calibration.  The two self-supporting towers at the Sary-Shagan ESV Tracking Facility are not of the same design as the self-supporting microwave towers at other towave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave to or elements were identified in the communications area northwest of the ESV type.	BASIC DESCRIPTION	
crowave facilities 4, 7, 12, 13, and 16 and at communications facility 6. The antenna nounted on a single 9-meter (30-foot) vertical support projecting from the top of the towave tower. Two braces joined the horizontal member of the antenna, which with the vertical support.  . Unidentified equipment (Figure 3) was on top of the self-supporting microwave at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG me. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch olex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and other tower is the same distance north of launch complex D. The unidentified of the two self-supporting towers at the Sary-Shagan ESV Tracking Facility are not of the same design as the self-supporting microwave towers at other wave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave or elements were identified in the communications area northwest of the ESV by.	owave elements identified were Vesna-type horns (Figure 2). No ruction nor evidence of non-usage of existing microwave equipped 22 microwave facilities. Table 1 includes tower heights, antendation and height), and description of miscellaneous equipmentated by establishing the correspondent of each facility (Figure 1).	Neither significant new ment was noted at any na elements (including ent. Orientations were 1).
Unidentified equipment (Figure 3) was on top of the self-supporting microwave as at microwave facilities 3-II, 6 and 10, each of which is located near a HEN EGG ne. Two additional self-supporting towers with the same unidentified equipment but no microwave elements were observed between the ESV tracking facility and launch lex D. One tower is 3,087 meters (10,125 feet) northwest of the two ESV buildings, and other tower is the same distance north of launch complex D. The unidentified ment on these towers does not appear to be microwave associated and is probably for calibration.  The two self-supporting towers at the Sary-Shagan ESV Tracking Facility are not of the same design as the self-supporting microwave towers at other wave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave or elements were identified in the communications area northwest of the ESV by.	crowave facilities 4, 7, 12, 13, and 16 and at communications for a single 9-meter (30-foot) vertical support projections wave tower. Two braces joined the horizontal member of	facility 6. The antenna ing from the top of the
are not of the same design as the self-supporting microwave towers at other owave facilities and are probably calibration towers. No additional information is able on the 51-meter (168-foot) mast southeast of the ESV building, and no microwave or elements were identified in the communications area northwest of the ESV ty.	4. Unidentified equipment (Figure 3) was on top of the self- ers at microwave facilities 3-II, 6 and 10, each of which is loca- ome. Two additional self-supporting towers with the same unider no microwave elements were observed between the ESV track- plex D. One tower is 3,087 meters (10,125 feet) northwest of the to- other tower is the same distance north of launch complex	ated near a HEN EGG entified equipment but ing facility and launch two ESV buildings, and a D. The unidentified
2	are not of the same design as the self-supporting microwave facilities and are probably calibration towers. No addlable on the 51-meter (168-foot) mast southeast of the ESV build	rowave towers at other litional information is ling, and no microwave
	9	

TOP SECRET RUFF

Sanitized Copy Approved for Release 2011/08/02 : CIA-RDP78T05162A000100010026-2

25X1 25X1

25**X**1

25X1 25X1

25X1 25X1

25X1 25X1

25X1

25X1

25X1

25X1 25X1

25X1

25X1 25X1

25X1

25X1

25X1

25X1 25X1

25X1

## Table 1. Data on the Microwave System at Sary-Shagan Antimissile Test Center [Installation Names are NPIC Usage]

Installation	Number of Vesna-type horns	Type of Tower	Tower Height m <sup>s</sup>	Element Height m <sup>s</sup>	Miscellaneous Equipment	Installation	Number of Vesna-type horns	Type of Tower	Tower Height $\frac{m^s}{f}$	Element Height <u>m</u> °	Miscellaneous Equipment
Microwave Fac 16	1	Guyed	85 280	85 280	1 empty harness, unid antenna on tower	Microwave Fac 4	4	Guyed	85 280	85 (2@) 280 76	Unid antenna on tower
Microwave Fac 15	2	Guyed	92 300	92 300	None	:				(2@) 250	
Microwave Fac 14	2	Guyed	84 275	84 275	None	Microwave Fac 3	-II 4	Self- supporting	87 285	82 (2@) 270 28	Unid equipment on tower
Microwave Fac 13	2	Guyed	81 265	81 265	Unid antenna on tower					(2@) 90	
Microwave Fac 12	2	Guyed	52 169	49 160	Unid antenna on tower	Commo Fac 6 (M	(W) 4	Guyed	55 180	55 (2@) 180 24	Unid antenna on tower
Microwave Fac 11	4	Guyed	81 265	81 (2@) 265 40 (2@) 130	None	Commo Fac 5 (M	fW) 4	Guyed	61 200	(2@) 80 61 (2@) 200 20	None
Microwave Fac 10	4	Self- supporting	85 280	76 (2@) 250 28 (2@) 90	Unid equipment on tower	Commo Fac 4 (N	fW) 4	Guyed	49 160	(2@) 65 49 (2@) 160 15	Undetermined
Microwave Fac 9	2	Guyed	87 285	87 285	None	Launch Complex	A 5	Guyed	52	(2@) 50 52	Prob empty harness
Microwave Fac 8	3	Guyed	35 115	35 115	None	Microwave Fa	c		170	(2@) 170 46 (2@) 150 40	
Microwave Fac 8-II	2	Guyed	32 106	32 106	Undetermined	Launch Complex	В 3	Guyed	67	(1@) 130 67	1 empty harness
Microwave Fac 7	2	Guyed	46 150	46 150	Unid antenna on tower	Microwave Fac		Guyeu	220	220 52	r empty namess
Microwave Fac 6	2	Self- supporting	89 290	73 240	Unid equipment on tower	Headquarters	5	Guyed	28	(1@) 170 (2@) 28	None
Microwave Fac 5	4	Guyed	75 245	75 (2@) 245 14	None	Microwave Fac	;	•	90	90 12 (3@) 40	
				(2@) 45		Microwave TV F	ac 0	Self- supporting	183 600	NA	12 empty harnesses

TOP SECRET RUFF

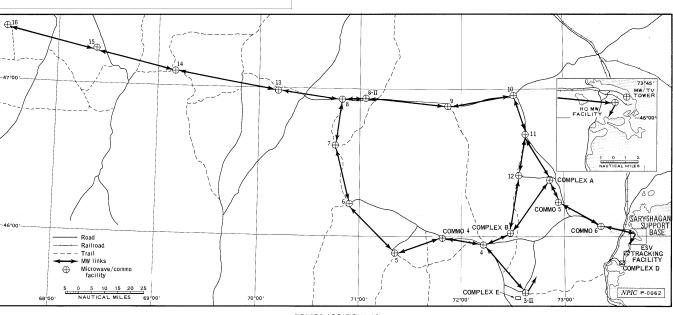


FIGURE 1. LOCATION MAP

Sanitized Copy Approved for Release 2011/08/02 : CIA-RDP78T05162A000100010026-2

TOP SECRET RUFF

25X1

Sanitized Copy Approved for Release 2011/08/02 : CIA-RDP78T05162A000100010026-2  TOP SECRET RUFF	25X
6. No microwave elements were identified at Sary-Shagan R&D Facility 1  at Sary-Shagan R&D Facility 2 or at Sary-Shagan Launch Complex D A guyed ohigh tower is immediately east of launch complex D. radome was on top of the tower and a calibration dish was attached to the tower beneath the radome. Fourteen rectangular cootings for guy wires are spaced around the tower. Another similar tower was under construction northwest of the complex.	25X 25X 25X 25X
7. A rectangular building and four smaller buildings are in a secured area, 1 nautical mile (nm) north of microwave facility 13. No relationship between this secured area facility 13-1) and the microwave facilities was established. The exact function of these buildings is undetermined.	
	25 <b>X</b> 1

TOP SECRET RUFF

25X1

	TOD CEC	RET RUFF		
	TOP SEC	KEI KUFF		
DOCUMENT				
1. NPIC.	Missourana Conton	Sam Shagan Antimissis (	Test Center 1100D I GO (TO	ΩĎ
I. NPIG SECRET RUI	FF)	sary-snagan Antimissile I	Test Center, USSR, Jun 69 (T	OP

Sanitized Copy Approved for Release 2011/08/02 : CIA-RDP78T05162A000100010026-2

1/00/00 - OLA DDD70T05400A000400040000

Sanitized Copy Approved for Release 2011/08/02 : CIA-RDP78T05162A000100010026-2

## TOP SECRET